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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte UWE HOFMANN, MONIKA BREU, HARALD
SIEGELE, ANDREAS BOEGEL,
DORIS HUMPENOEDER-BOEGEL and JOERG SEEGER

Appeal 2009-2781
Application 10/786,470
Technology Center 1700

Decided:¹ May 14, 2009

Before TERRY J. OWENS, LINDA M. GAUDETTE, and
MARK NAGUMO, *Administrative Patent Judges*.

Opinion for the Board filed by OWENS, *Administrative Patent Judge*.
NAGUMO, *Administrative Patent Judge*, concurs without opinion.

DECISION ON APPEAL
STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 19-24. Claims 7-18, which are all of the other pending

¹ The two-month time period for filing an appeal or commencing a civil
action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date
shown on this page of the decision. The time period does not run from the
Mail Date (paper delivery) or Notification Date (electronic delivery).

claims, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The Appellants claim a copper alloy. Claim 19 is illustrative:

19. A copper alloy consisting of, in weight %: 60-70% Cu; 1.5-2.5% Sn; 0.01-0.5% Fe and/or Co; 0.01-0.5%, 0.01-0.5% Mn and/or Si; up to 3% Mg; up to 0.2% P; each of Ag, Al, As, Sb, Ti and Zr in an amount up to 0.5% and the remainder being Zn and unavoidable impurities.

The Reference

Hirai (JP '246, as translated) JP 02038246 Feb. 6, 2002

The Rejection

Claims 19-24 stand rejected under 35 U.S.C. § 103 over JP '246.

OPINION

We affirm the Examiner's rejection.

Issue

Have the Appellants shown reversible error in the Examiner's determination that JP '246 would have rendered prima facie obvious, to one of ordinary skill in the art, the Appellants' claimed copper alloy, or that the Appellants' Figure 1 is ineffective for overcoming a prima facie case of obviousness of that copper alloy?

Findings of Fact

JP '246 discloses a copper alloy, the composition of which compares as follows to the composition in the Appellants' sole independent claim 19:

Component	Appellants' Claim 19,	JP '246 ¶ 0011, wt%
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	wt%	
Cu	60-70	Balance
Sn	1.5-2.5	0-10
Fe and/or Co	0.01-0.5	Fe 0-3, Co 0-1
Ni	0.01-0.5	0-10
Mn and/or Si	0.01-0.5	Mn 0-1, Si 0-1
Mg	Up to 3	0-1
P	Up to 0.2	0-0.5
Ag, Al, As, Sb, Ti, Zr	Each up to 0.5	Ag 0-1, Al 0-5, Ti 0-1, Zr 0-0.5
Zn	Balance	0-40
Cr		0-1
B		0-0.5
Rare earth element		0-0.5

Analysis

As indicated by the above comparison, the range of each component required by the Appellants' claim 19 either overlaps or is encompassed by the range of that component in the JP '246 copper alloy.

"A *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art." *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003). "[E]ven a slight overlap in range establishes a *prima facie* case of obviousness." *Id.* Regarding the situation in which a range in a reference encompasses a range in a claim the Court in *Peterson* stated:

Selecting a narrow range from *within* a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply *overlaps* a disclosed range. In fact, when, as here, the claimed ranges are completely encompassed by the prior art, the conclusion is even more compelling than in cases of mere overlap.

Peterson, 315 F.3d at 1329-30.

The Appellants argue that JP ‘246 does not disclose a specific alloy that falls within the scope of the Appellants’ claims (Br. 3-4).

That argument is not well taken because it is directed toward anticipation under 35 U.S.C. § 102, whereas the rejection is based upon obviousness under 35 U.S.C. § 103.

The Appellants argue, in reliance upon *In re Baird*, 16 F.3d 380 (Fed. Cir. 1994), that “an overly broad generic disclosure does not present a showing of prima facie obviousness to much narrower ranges, particularly when the broad disclosure indicates a preference teaching away from the claimed compounds” (Br. 4).

In *Baird*, the Knapp reference did not disclose the bisphenol A required by Baird’s claims but, rather, disclosed a generic diphenol formula that encompassed an estimated more than 100 million different diphenols, one of which was bisphenol A. *Baird*, 16 F.3d at 382. The court stated that “[w]hile the Knapp formula unquestionably encompasses bisphenol A when specific variables are chosen, there is nothing in the disclosure of Knapp suggesting that one should select such variables.” *Id.* *Baird* is irrelevant to the present case which pertains to encompassed or overlapping ranges of components that are specifically disclosed in a reference.

Thus, we conclude that the Appellants’ claimed invention would have been prima facie obvious to one of ordinary skill in the art over JP ‘246.

When a prima facie case of obviousness has been established, the Appellants have the burden of rebutting it by presenting objective evidence of non-obviousness. See *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). A final determination regarding obviousness is then reached by starting anew and evaluating the

rebuttal evidence along with the evidence upon which the conclusion of prima facie obviousness was based. *See In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976).

The Appellants argue that their Figure 1, which illustrates the relationship between standard deviation of product characteristics and content of matrix-active elements without the majority components Cu, Zn and Sn, unexpectedly shows no further reduction in standard deviation of product characteristics above a 5% content of matrix-active elements without Cu, Zn and Sn (Br. 5). The Appellants (Br. 5) quote their Specification: “Above contents of 5% no further improvements of the dispersions can be observed since considerable unpredictable superposed additive effects are observed, which do not lead to any further improvement” (Spec. ¶ 0053). The Appellants further state that “[t]he variability of the material characteristics which, through use of the inventive composition, move particularly into the foreground, are the apparent yielding point, the tensile strength, the ductile yield, the hardness, the grain size and the hardening ability of the material” (Spec. ¶ 0054).

For the following reasons the Appellants’ Figure 1 is not effective for overcoming the prima facie case of obviousness.

First, the Appellants have not established that Figure 1 is based upon experimental data, and if it is based upon experimental data the Appellants have not provided and explained that data so we can determine what product characteristics the data apply to and whether the data are reliable.

Second, the Appellants’ Figure 1 does not provide a comparison of the claimed invention with the closest prior art, i.e., JP ‘246. *See In re Baxter*

Travenol Labs., 952 F.2d 388, 392 (Fed. Cir. 1991); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984).

Third, the Appellants have not established that Figure 1 shows unexpected results. Evidence of unexpected results must not merely show an unrecognized property but, rather, must show an unexpected difference in a property between the claimed invention and the prior art. *See In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973). The Appellants have not demonstrated an unexpected difference in any property compared to JP ‘246.

Fourth, the Appellants have not established that Figure 1 is commensurate in scope with the claims. *See In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980). The claims encompass ranges of numerous components, and the Appellants have not established that Figure 1 is commensurate with the ranges of those components.

The Appellants’ Figure 1, therefore, is not effective for overcoming the prima facie case of obviousness over JP ‘246.

Conclusion of Law

The Appellants have not shown reversible error in the Examiner’s determination that JP ‘246 would have rendered prima facie obvious, to one of ordinary skill in the art, the Appellants’ claimed copper alloy, or that the Appellants’ Figure 1 is ineffective for overcoming a prima facie case of obviousness of that copper alloy.

DECISION/ORDER

The rejection of claims 19-24 under 35 U.S.C. § 103 over JP ‘246 is affirmed.

It is ordered that the Examiner’s decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

NAGUMO, *Administrative Patent Judge*, concurs without opinion.

tc

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